SPRING-LOADED PROCESS MOUNTING HARDWARE WITH OPTIONAL TERMINAL HEAD

How to build a part number:

To order an Applied Sensor Technologies temperature sensor, select the requirements for the categories listed below and fill in the corresponding boxes with your selection.

SENSOR TYPE	ASSEMBLY STYLE	CONNECTION TYPE AND MATERIAL	CONNECTION LENGTH	SHEATH DIAMETER	SHEATH MATERIAL	TEMPERATURE RANGE	SHEATH LENGTH	LEADWIRE LENGTH	OPTIONS

SENSOR TYPE (See page 2-7b for optional elements)
RTP1 – Platinum; DIN 0.00385; 100 ohm +/− 0.12% @ 0°C; 3-wire construction
(For dual element, add prefix "D"- e.g., DRTP1)

ASSEMBLY STYLE
48 – **Sheath with spring-loaded hex connector and connection hardware**; head as option

CONNECTION TYPE AND MATERIAL

Code	Union Type	Union Material	Lower Nipple Material
NU	Ordinary location	Carbon steel	None
NUS	Ordinary location	Stainless steel	None
NUX	Explosion-proof	Electroplated steel	None
NUN	Ordinary location	Carbon steel	Carbon steel
NUNS	Ordinary location	Stainless steel	Stainless steel
NUNX	Explosion-proof	Electroplated steel	Carbon steel
NUNXS	Explosion-proof	Electroplated steel	Stainless steel

CONNECTION LENGTH (For NU, NUX, NUS, use 002.5)
(e.g., 006 = 6 inch)
(See chart below for available standard lengths)

SHEATH DIAMETER (in inches) (see below for restrictions)
4 – 1/8" (0.125)
6 – 3/16" (0.188)
7 – 1/4" (0.250)
9 – 3/8" (0.375)

SHEATH MATERIAL
3 – 316 stainless steel

TEMPERATURE RANGE - Minimum and maximum operating temperatures
1 – -45 to 260°C (-50 to 500°F)
2 – -45 to 482°C (-50 to 900°F)
3 – -45 to 788°C (-50 to 1450°F)
4 – -200 to 260°C (-328 to 500°F)

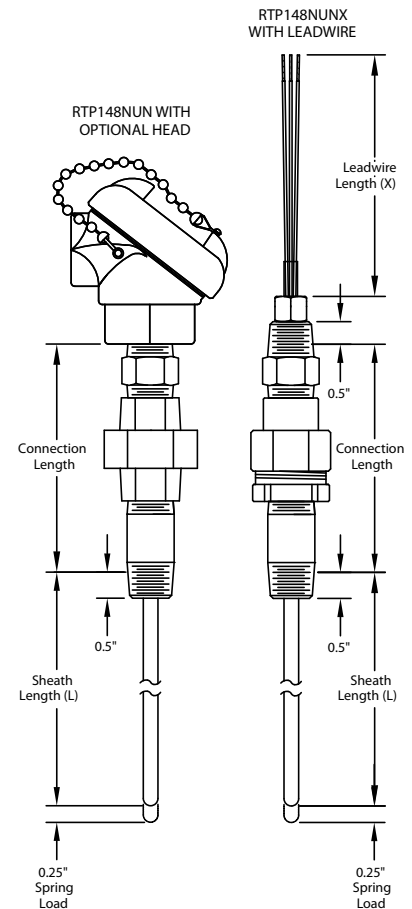**SHEATH LENGTH** (for lengths greater than L=36", consult AST)
L# – (e.g., L6 = 6 inch sheath)

LEADWIRE LENGTH
X# – (e.g., X3 = 3 inch length; X3 is standard if specifying optional head)

OPTIONS – see back page

STANDARD AVAILABLE CONNECTION LENGTHS FOR NUN CONNECTIONS
3.00
3.50
4.00
4.50
5.00
6.00
7.00
8.00
9.00
DIMENSIONS ARE GIVEN IN INCHES

RTP148NUNX WITH LEADWIRE

RTP148NUN WITH OPTIONAL HEAD

Leadwire Length (X)

Connection Length

0.5"

Sheath Length (L)

0.25" Spring Load

Smallest Diameter Sheath Available By Sensor Type and Temperature Range							
SINGLE							
Temp Range	RTP 1	RTP 1A	RTP 1AA	RTP 6	RTP 7	RTP 7A	RTP 7AA
1	1/8	1/8	1/8	1/8	3/16	3/16	3/16
2	3/16	3/16	3/16	3/16	3/16	3/16	3/16
3	3/16			3/16	3/16		
4	1/8			1/8	3/16		
DUAL							
Temp Range	DRTP 1	DRTP 1A	DRTP 1AA	DRTP 6	DRTP 7	DRTP 7A	DRTP 7AA
1	3/16	3/16	3/16	3/16			
2	1/4	1/4	1/4	3/16			
3	1/4			1/4			
4	3/16			3/16			

OPTIONAL ELEMENTS

RTDs are standardly platinum, 100-ohm, DIN-curve elements with a 0.00385 alpha.

Option Code	Accuracy (at 0°C)	Construction
RTP1 (std.)	±0.12%	3-wire
RTP1A	**±0.06%**	3-wire
RTP1AA	**±0.01%**	3-wire
RTP6	±0.12%	**2-wire**
RTP7	±-0.12%	**4-wire**
RTP7A	**±0.06%**	**4-wire**
RTP7AA	**±0.01%**	**4-wire**

Notes:
1. For dual element, add prefix "D" (e.g., DRTP6)
2. Additional materials, curves and resistance values are available - see Capabilities brochure.

ASSEMBLY OPTIONS

Option Code	Description
TAG1	Stainless steel tag and wire
CAL1	NIST traceable calibration [specify point(s)]
CRT1	Certificate of conformance
RB10	Replace terminal block with customer supplied part
RB11	Supply assembly with no terminal block inside head
WC20	Wiring cable gland for 0.187 - 0.312 diameter cables, for terminal heads with 1/2" NPT conduit connections
WC21	Wiring cable gland for 0.125 - 0.187 diameter cables, for terminal heads with 1/2" NPT conduit connections

WIRING CONNECTION OPTIONS

Option Code	Description
WC76	#6 spade terminals, plated copper
WC70	#10 spade terminals, plated copper
WC84	1/4" push-on insulated terminals, plated copper
WC90	#10 ring terminals
WC98	#8 ring terminals

TRANSMITTERS - for complete specs, see Transmitters section

TR11	4-20 mA, 2-wire; single input; isolated output; specify range, units of measure (e.g., 0-200°C) and terminal head with *. See Accessories section for additional information.
TR12	4-20 mA, 2-wire transmitter, single input, non-isolated output; specify range and units of measure (e.g., 0-200°C) and terminal head with *.
TR13	HART®/ 4-20 mA, 2-wire transmitter, single input, isolated output; specify range and units of measure (e.g., 0-200°C) and terminal head with *.

THERMOWELLS & PROTECTION TUBES

For a complete offering of metal, ceramic and composite material thermowells and protection tubes, please see the Thermowell and Protection Tube sections.

AVAILABLE OPTIONS and MODIFICATIONS

NEMA 4 OR 4X TERMINAL HEAD OPTIONS

Head without ground screw	Head with internal ground screw	Process Connection	Conduit Connection
Cast aluminum, screw cover with chain, NEMA 4			
HD10*	HD11*	1/2"	1/2"
HD12*	HD13*	1/2"	3/4"
Epoxy-coated aluminum, screw cover with chain, NEMA 4X			
HD50*	HD51*	1/2"	1/2"
HD52*	HD53*	1/2"	3/4"
Cast iron, screw cover with chain, NEMA 4			
HD20*	HD21*	1/2"	1/2"
HD22*	HD23*	1/2"	3/4"
316 stainless steel, screw cover with chain, NEMA 4X			
HD40*	HD41*	1/2"	3/4"
White polypropylene, screw cover with chain, NEMA 4			
HD30	N/A	1/2"	3/4"
Black polypropylene, screw cover with chain, NEMA 4			
HD31	N/A	1/2"	3/4"
Nylon, screw cover			
HD32	N/A	1/2"	1/2"

EXPLOSION-PROOF TERMINAL HEAD OPTIONS **

Option Code	Process Connection	Conduit Connection
Cast aluminum, screw cover with chain; o-ring gasket rated to 100°C; ceramic terminal block; FM/CSA approved for Class I Div. 1, Groups B, C, D; Class II, Groups E, F, G; internal ground screw		
HD70*	1/2"	1/2"
HD71*	1/2"	3/4"
Stainless steel (same specs as HD70/HD71)		
HD74*	1/2"	1/2"
HD75*	1/2"	3/4"
Epoxy-coated (same specs as HD70/HD71)		
HD80*	1/2"	1/2"
HD81*	1/2"	3/4"
Cast aluminum; ATEX approved for EEx d IIC; screw cover with chain; silicone rubber o-ring gasket; ceramic terminal block; rated for NEMA 4X, IP66 to IP68; internal and external ground screws		
HD72*	1/2"	1/2"
HD73*	1/2"	3/4"
Cast aluminum (Formerly Style 60); screw cover; plastic terminal block; UL/CSA approved for Class I Div. 1, Groups C and D; Class II Groups E, F and G.		
HD60	1/2"	1/2"
HD61	1/2"	3/4"
*can be used with transmitters		

Note: See Accessories section for outline drawings and additional specs.

Note – assemblies using XP heads are not 3rd-party certified. Approval applies to head only.

Note: Many non-standard options, including additional sheath diameters and materials, may also be available – consult AST for specific requirements. HART® is a registered trademark of the HART Communication Foundation.